ABSTRACT OF THE DISCLOSURE

The present invention is generally directed to various methods and systems for adaptive metrology sampling plans that may be employed to monitor various manufacturing processes. In one example, the method comprises creating a plurality of metrology sampling rules, assigning each of the metrology sampling rules a sampling weight value, identifying at least one workpiece that satisfies at least one of the metrology sampling rules, assigning the sampling weight value for each of the satisfied metrology sampling rules with the identified workpieces that satisfy the rules, and indicating a metrology operation should be performed when a cumulative total of the sampling weight values is at least equal to a pre-established trigger value. In further embodiments, the method involves indicating a metrology operation should be performed when a cumulative total of the sampling weight values for one of the metrology sampling rules is at least equal to a pre-established trigger value or indicating a metrology operation should be performed when a cumulative total of the sampling weight values for one of the workpieces is at least equal to a pre-established trigger value.